

## **II. REMARKS**

### **A. Status of the Claims**

Claims 33-51, 53-67, and 82-84 were pending in the case at the time of the Office Action, with claims 33-49 having been previously withdrawn from consideration. Claims 50, 64, 67, and 82 have been amended in the Amendment set forth herein. New claims 86-88 have been added. No claims have been canceled. Thus, claims 33-51, 53-67, and 82-87 are currently under consideration.

Regarding claim 64, exemplary support for “isolated” can be found in para [0062] of the specification. Regarding claim 82, exemplary support for the amendments can be found in originally filed claim 82 and in paragraphs [0150]-[0164] of the specification. Exemplary support for new claims 86 and 87 can be found in originally filed claims 50 and 67, respectively.

### **B. The Rejections Under 35 U.S.C. §112, Second Paragraph, Are Overcome**

Claims 50, 51, and 53-67 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants traverse, and respond as follows.

According to the Action, the phrase “with a complementary sequence” renders claims 50 and 67 indefinite. Regarding claim 50, it is alleged that it is not clear whether Applicants are referring to the full complement of SEQ ID NO.1 or SEQ ID NO. 2. Claim 50 has been amended to recite “or a polynucleotide with a complementary sequence to a polynucleotide region comprising at least 90% nucleotide identity with the nucleic acid sequences of SEQ ID NO. 1 or SEQ ID NO. 2.” Exemplary support for this limitation can be found in paragraphs [0060]-[0061] of the specification. This Amendment clarifies that the phrase “with a complementary sequence” refers to a sequence that is complementary to a polynucleotide region

comprising at least 90% nucleotide identity with the nucleic acid sequences of SEQ ID NO. 1 or SEQ ID NO. 2.

Claim 67 has been amended to recite “or a polynucleotide with a complementary sequence to a polynucleotide region having at least 80% nucleotide identity with the sequence of SEQ ID NO. 3.” Exemplary support for this limitation can be found in paragraphs [0072]-[0073] of the specification. This Amendment clarifies that the phrase “with a complementary sequence” refers to a sequence that is complementary to a polynucleotide region having at least 80% nucleotide identity with the sequence of SEQ ID NO. 3.

New claim 86, which depends from claim 50, recites “or the full complement of SEQ ID NO.1 or SEQ ID NO.2.” The Examiner has indicated on the record that this amendment would overcome the rejection. See Office Action, page 3, paragraph 1. New claim 87, which depends from claim 87, recites “or the full complement of SEQ ID NO. 3.” These claims recite alternative language suggested by the Examiner to address the rejection. See Office Action, page 3, paragraph 1.

In view of the above, each of the claims is sufficiently definite to meet the requirements of 35 U.S.C. §112, second paragraph. Therefore, the rejection of claims 50, 51, and 53-67 should be withdrawn.

**C. The Rejections Under 35 U.S.C. §112, First Paragraph, Are Overcome**

**1. The Rejection of Claim 64 is Moot**

Claim 64 is rejected under 35 U.S.C. §112, first paragraph, because the specification is said to not reasonably provide enablement for host cells with a multicellular organism that have been transformed with the vector of claim 61. The Action indicates that the specification is “enabling for an *isolated* host cell transformed with vector comprising a recombinant nucleic acid comprising a polynucleotide region comprising at least 90% nucleotide identity to SEQ ID

NO:1 or SEQ ID NO:2 and coding for at least one subunit of a glycerol dehydratase.” Office Action, page 3, paragraph 10 (emphasis added). Applicants traverse this rejection.

Claim 64 as written now recites “[t]he recombinant nucleic acid of claim 61, wherein the vector is further defined as comprised in an *isolated* recombinant host cell.” (emphasis added). Exemplary support for “isolated recombinant host cell” can be found in paragraphs [0003], [0135]-[0136], and [0141] of the specification. Therefore, because claim 64 as written includes language suggested by the Examiner to address the enablement rejection, the rejection has been rendered moot.

## **2. The Rejection of Claims 82-84 is Moot**

Claims 82-84 are rejected under 35 U.S.C. §112, first paragraph, because the specification is said to not reasonably provide enablement for the full scope of the recited method encompassing any expression vector. Applicants traverse.

Claim 82 as presently written recites language which the Examiner has indicated would be acceptable. In particular, claim 82 recites the phrase “[a] process for the production of a polypeptide encoded by a recombinant nucleic acid coding for at least one subunit of a glycerol dehydratase, wherein the catalytic activity of the glycerol dehydratase is not dependent on coenzyme B12 and wherein the polypeptide comprises at least 90% amino acid identity with SEQ ID NO. 6 or SEQ ID NO. 7, a recombinant nucleic acid encoding a dimeric protein comprising a first polypeptide comprising at least 90% amino acid identity to SEQ ID NO. 6 and a second polypeptide comprising at least 90% amino acid identity to SEQ ID NO. 7, or a recombinant nucleic acid that has at least 90% nucleotide identity with SEQ ID NO. 4 and encodes a 1,3-propanediol dehydrogenase comprising an amino acid sequence of at least 90% amino acid identity to SEQ ID NO. 8.” The Action indicates that amending the claims to recite this language may overcome the rejection. The Examiner has not set forth any basis to question

enablement of claim 82 as written. Therefore, Applicants consider this rejection to be moot.

The Action indicates that “the specification provides guidance and examples for making a recombinant nucleic acid encoding a glycerol dehydrates [sic] having the amino acid sequence of SEQ ID NO:6 or SEQ ID NO:7, a recombinant nucleic acid encoding a dimeric protein comprising a first polypeptide that has the amino acid sequence of SEQ ID NO:6 and a second polypeptide that has the amino acid sequence of SEQ ID NO:7, and a recombinant nucleic acid comprising SEQ ID NO:4 and encodes a 1,3-propanediol dehydrogenase comprising the amino acid sequence SEQ ID NO:8, wherein the specification discloses nucleotide sequences of SEQ ID NOs: 1-5.” Office Action, page 4, third paragraph of section 11. Applicants point out that new claim 88, which depends from claim 82, recites these limitations. Therefore, new claim 88 is enabled by the instant specification.

In view of the above, it is respectfully submitted that the enablement rejections under 35 U.S.C. 112, first paragraph, are moot.

#### **D. Conclusion**

In view of the foregoing, it is respectfully submitted that each of the pending claims is in condition for allowance, and a Notice of Allowance is earnestly solicited.